

An Experimental Approach For Investigating Consumers' Evaluation of Pharmacist Consultation Services

Submitted February 10, 2000; accepted April 30, 2000; published May 15, 2000

Jon C. Schommer.

University of Minnesota, College of Pharmacy, Minneapolis, Minnesota.

ABSTRACT The goal of this study was to investigate factors that influence consumers' perceptions of service encounter satisfaction, overall service quality, and trust in the service provider for pharmacist consultation services. We used the Dynamic Process Model of Service Quality as the framework for investigating the formation of these evaluations. Consumers' prior expectations of what *should* and *will* transpire during the service episode(s) and the performance level of the actual delivered service during the service encounter(s) were hypothesized to affect satisfaction, quality, and trust. Two experiments using a 2x2x2 fully-crossed factorial design were used for collecting and analyzing data. The results showed that normative (should) and predictive (will) expectations play differential roles in consumers' evaluation of satisfaction, perception of quality, and trust in the service provider. Also, there appeared to be differential roles that a particular type of expectation will serve depending upon the level of service performance.

INTRODUCTION

Inappropriate use of medications is estimated to be a problem that costs the U.S. populace 100 billion dollars annually [1] and is estimated to account for 7,000 deaths per year [2]. Pharmacist consultation with patients is an important means through which the medication use process can be improved [3]. For example, most prescribing and dispensing errors detected by pharmacists are discovered during the provision of consultation to patients [3]. Also

consultation is an important precursor to patient understanding of medication regimens, acceptance of medical services, compliance with treatment plans, and achieving therapeutic goals [4-6].

Health professionals endorse pharmacist consultation services and federal and state regulations now mandate that pharmacist consultation be offered to most patients who purchase prescriptions in community pharmacies [7-8]. For this study, "pharmacist consultation" was defined as verbal communication between a pharmacist and patient (or agent of the patient) about medications or health. Consultation may include, but is not limited to, provision of information about the name and purpose of the medication, directions for use, side effects, interactions, contraindications, continuity of therapy, and monitoring [5,7,8].

There is a need to understand how consumers evaluate the services that pharmacists provide [9,10]. First, a focus on consumer satisfaction draws attention to the management of individual service encounters between the consumer and representatives of the firm sometimes referred to as "moments of truth" [9,10]. The management of these discrete interactions between consumers and firms is a primary concern to firms wanting to build competitive advantages over other service providers [10].

Second, some firms have focused on consumers' perceptions of the quality of cumulative episodes with a service provider as a way to create long term relationships with loyal service customers [11-18]. And third, health services' intangibility and complexity [13] place a focus on the person who provides the service [19]. Crosby, Evans, and Cowles [13] argued that trust in the service provider is particularly important for services in which

Corresponding author: Jon C. Schommer, Associate Professor, University of Minnesota, College of Pharmacy, 308 Harvard Street, S.E., Minneapolis, Minnesota, USA
55455 schom010@tc.umn.edu

consumers seek predictable and obligatory behaviors on the part of the service provider. Cultivation of the consumer's trust is advantageous when uncertainty and risk are inherent and contracts and warranties are often absent (e.g. health care services).

The goal of this study was to investigate factors that influence consumers' service encounter satisfaction, perceptions of overall service quality, and trust in the service provider for pharmacist consultation services. We used the Dynamic Process Model of Service Quality as the framework for investigating the formation of these evaluations. Consumers' prior expectations of what *should* and *will* transpire during the service episode(s) and the performance level of the actual delivered service during the service encounter(s) were hypothesized to affect satisfaction, quality, and trust. That is, individuals' expectations, as well as the performance of a service, play important roles in individuals' evaluation of the service [12]. Specifically, individuals holding different expectations could experience an identical service encounter but have different perceptions of the service [12,20]. Thus, we studied the effects of performance level and two selected consumer expectations on consumer perceptions of: (1) satisfaction, (2) quality, and (3) trust in the service provider.

Study Variables And Hypotheses

Satisfaction with a pharmacist consultation episode was based on a definition outlined by Oliver [21]. It is "the summary psychological state resulting when emotion surrounding disconfirmed expectations is coupled with an individual's prior feelings about the experience under consideration." This evaluation is primarily an affect, or level of surprise, that an individual experiences after a specific service encounter. Thus, consumer satisfaction was related to a single service encounter and primarily viewed as affective in nature [22].

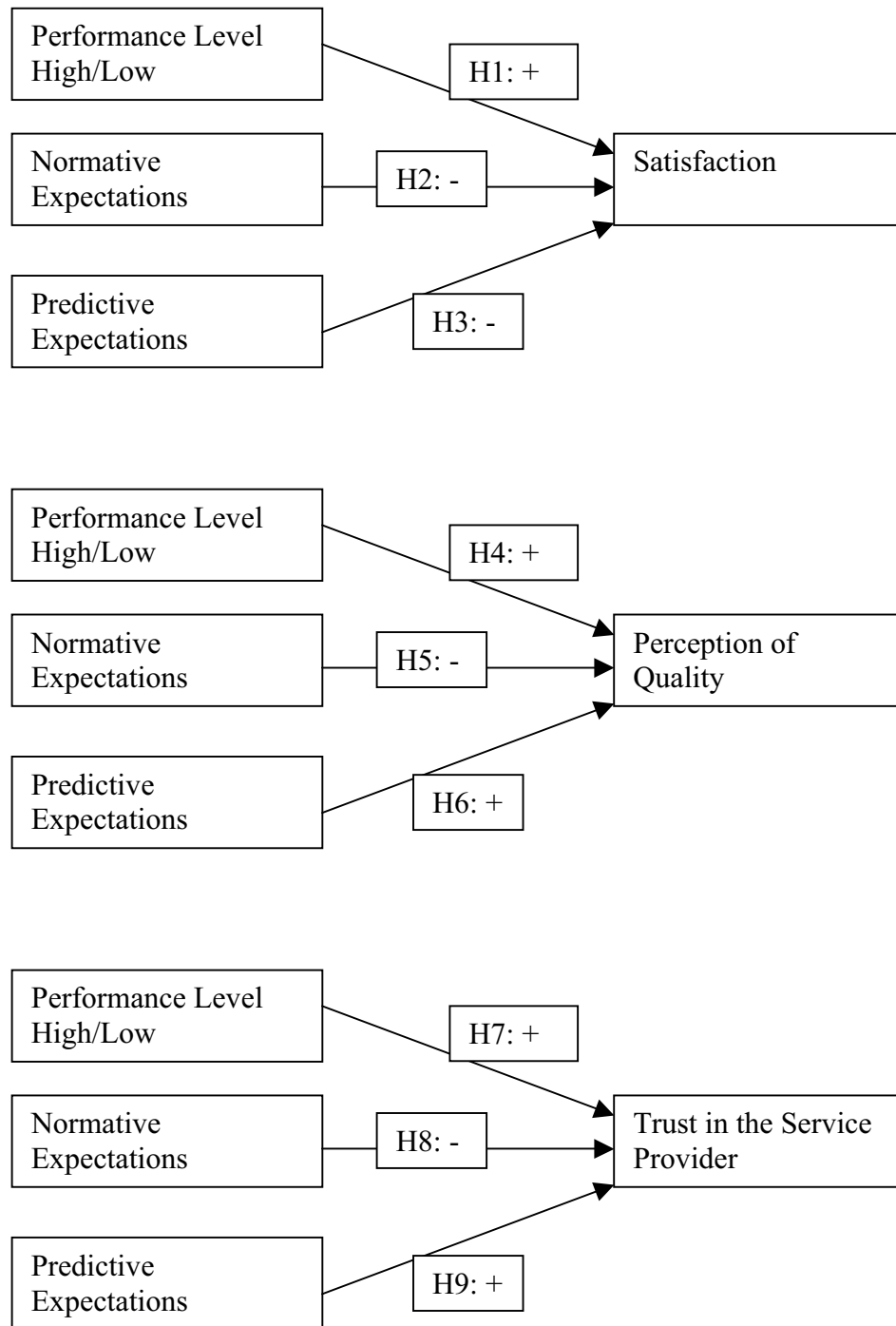
Perception of quality was defined as "an individual's assessment of the overall excellence or superiority of the services provided" [12,16]. This definition has been used to conceptualize overall perceived quality

of a service. It is a general post-encounter attitude about accumulated service experiences, not only about a particular service encounter [22]. Thus, the satisfaction construct emphasizes individuals' perceptions of a specific service encounter, and the perception of quality construct emphasizes individuals' cumulative perceptions of services received.

Trust in the service provider was defined as "the confident belief that the service provider can be relied upon to behave in such a manner that the long term interest of the consumer will be served" [23]. The focus is on the provider of the service and reflects an individual's assessment of the provider's future behavior based on past experience. For health care services such as pharmacist consultation, trust is an important evaluative component due to the uncertainty, risk, and lack of contracts or warranties inherent in such services [24,25].

Performance level was defined as "the manner in which a service is provided," [26,27]. Expectations were defined as "pretrial beliefs about a product or service" [28]. Two main types of expectations were utilized for this study. Normative Expectations represent what level of performance an individual believes he or she *should* receive during a service encounter [12,29]. Predictive Expectations represent what level of performance an individual believes he or she *will* receive [12,29]. The methods section outlines their operationalization for this study.

Consistent with the purpose of the study and the constructs previously discussed, the following hypotheses were developed and tested. They reflect proposed relationships among normative expectations, predictive expectations, and performance level with satisfaction, perception of quality, and trust in the service provider (Figure 1). For this study, performance level was manipulated as high/low service performance (see Methods) and was included as a key variable known to affect service evaluation [27]. Since the influence of performance is well established, it is the focus of the first hypothesis for each outcome, followed by hypotheses focusing on the two expectation variables.

Figure 1: Summary Of Hypothesized Relationships

It was hypothesized that both types of expectations negatively influence individuals' satisfaction via a process called disconfirmation of expectations [28,30]. For this process, both normative and predictive expectations act as standards against which individuals compare service performance [12,31]. When expectations match performance, confirmation

occurs. When expectations exceeded perceived performance, negative disconfirmation occurs. Positive disconfirmation occurs when perceived performance exceeded expectations. More positive disconfirmation of expectations leads to a more favorable levels of satisfaction [30,31]. Therefore, the

higher the expectation in relation to performance, the less favorable the satisfaction.

Hypothesis 1: There is a positive relationship between **performance level** and **satisfaction**, for equivalent levels of normative expectations and predictive expectations.

Hypothesis 2: There is a negative relationship between consumers' **normative expectations** for a service and **satisfaction**, for equivalent levels of predictive expectations and performance level.

Hypothesis 3: There is a negative relationship between consumers' **predictive expectations** for a service and **satisfaction**, for equivalent levels of normative expectations and performance level.

Expectations also were hypothesized to play a role in individuals' perception of quality. The role of normative expectations was thought to follow the disconfirmation of expectations process [28,30]. That is, individuals with higher normative expectations (what should occur) have lower perceptions of perception of quality after a service encounter, all else equal, than those with lower normative expectations. However, a *positive* relationship between predictive expectations and perception of quality was proposed based on work by Boulding, Kalra, Staelin, et al. [12]. That is, individuals with higher predictive expectations (what will occur) have more favorable perceptions of quality for cumulative service episodes after a service encounter, all else equal, than those with lower predictive expectations. This relationship is proposed based on the assumption that a person's expectations color the way he or she perceives reality. Specifically, individuals with higher expectations of what the service provider *will* deliver (predictive expectations) have more favorable perceptions of quality for cumulative service episodes, all else equal, than those with lower predictive expectations [12].

Hypothesis 4: There is a positive relationship between **performance level** and **perception of quality**, for equivalent levels of normative expectations and predictive expectations.

Hypothesis 5: There is a negative relationship between consumers' **normative expectations** for a service and **perception of quality**, for equivalent levels of predictive expectations and performance level.

Hypothesis 6: There is a positive relationship between consumers' **predictive expectations** for a service and **perception of quality**, for equivalent levels of normative expectations and performance level.

Finally, the effects of expectations on “trust in the service provider” were investigated. Researchers suggest that trust is developed over time via frequent, two - way communications [32], keeping implied promises [24,33], and reliable and consistent behavior [34]. Thus, it is hypothesized that expectations will affect trust similarly to the manner in which they affect perception of quality. That is, individuals with higher normative expectations (what should occur) have lower perceptions of trust in the service provider after a service encounter, all else equal, than those with lower normative expectations. And, individuals with higher predictive expectations (what will occur) have more favorable perceptions of trust in the service provider after a service encounter, all else equal, than those with lower predictive expectations. A differential focus on the service itself versus the service provider might yield differences in the strengths of the relationships between expectations and trust in the service provider compared to relationships between expectations and perception of quality. However, we hypothesize a similar pattern of results for each of these two evaluative outcomes.

Hypothesis 7: There is a positive relationship between **performance level** and **trust in the service provider**, for equivalent levels of normative expectations and predictive expectations.

Hypothesis 8: There is a negative relationship between consumers' **normative expectations** for a service and **trust in the service provider**, for equivalent levels of predictive expectations and performance level.

Hypothesis 9: There is a positive relationship between consumers' **predictive expectations** for a service and **trust in the service provider**, for equivalent levels of normative expectations and performance level.

There was no evidence found from previous research that warranted explicit hypotheses for interactive effects among the independent variables. However, an exploration of significant interactive effects was conducted statistically to aid in the interpretation of the results. A summary of the hypotheses is presented in Figure I. For this study, no relationships among satisfaction, perception of quality, or trust in the service provider were hypothesized. They were viewed as distinct constructs with satisfaction representing consumers' evaluation of a single service encounter, perception of quality representing consumers' evaluation of cumulative experiences, and trust in the service provider representing consumers' evaluation of the person who provides the service.

METHODS

Experimental Design

A 2 x 2 x 2 fully-crossed factorial design was used for collecting and analyzing data. Two levels (high/low) of performance, normative expectations, and predictive expectations were manipulated experimentally yielding eight treatment groups. Data from two different experiments were used. The first experiment utilized a repeated measures design to control for between-subject variation. Each study subject received all eight treatment combinations in random order. The second experiment utilized a between subject design in which each study subject randomly received only one of the eight treatment conditions.

Dependent Variables

The dependent variables (satisfaction, perception of quality, and trust in the service provider) were measured using six items for each based on previously used measures in the domains of service encounter satisfaction [13,21,22], overall perceived

service quality [16,22,35], and trust in the service provider [13,23]. Appendix A contains the items and rating scales that were used. Items for each measure were summed to produce overall scores.

Independent Variables

On the basis of theory and prior experiments [12], normative and predictive expectations were manipulated (high/low) through the use of hypothetical situations presented in written format (see Appendix B). Normative expectations were manipulated by telling the study subjects about the necessity to receive information about the medication described in the situation. For the health-related service we used, this provided a means to manipulate study subjects' expectations of what ideally should occur in the described service episode. For some situations, the ideal level of service would be an in-depth encounter. For other situations, however, the ideal level of service would be at a relatively superficial level. Predictive expectations were manipulated by telling study subjects about their prior experiences with the pharmacy and the pharmacy's reputation. This provided evidence upon which to base expectations about what would likely occur at the next service encounter.

Performance level was manipulated by means of two videotaped consultations by a pharmacist in a community pharmacy setting [36]. For each videotape (produced professionally in hi-8 format), the pharmacist talked directly to the video camera during taping to provide the impression that the pharmacist was talking to the person viewing the videotape. The low performance videotape consisted of the pharmacist handing the prescription over the counter and saying, "Thank you." The high performance videotape was the same as the low performance tape in every way except now the pharmacist discussed the medication with the "patient" following Federal Guidelines [8]. Nystatin oral suspension was the medication dispensed in the videotaped sessions. Nystatin is an antifungal antibiotic that can be used to treat candidiasis infections of the oral cavity. It was selected for this study because (1) it was a drug that potentially could be prescribed for any of the subjects recruited for this

study and (2) its proper dosing, administration, storage, and length of use are unlike most other medications and require consultation [37].

Manipulation Checks

Manipulation checks [38] were conducted for each of the three independent variables during the development of experiment 1 (college students) and experiment 2 (adults residing in Ohio). Manipulation checks for the two levels of performance were conducted by asking seven pharmacists to view the two videotaped presentations and rate the counseling from 1 = terrible to 5 = excellent. The mean score for the low performance was 1.0 (all responses = 1) and for the high performance was 4.1 (range from 3 to 5).

Manipulation checks for the levels of normative and predictive expectations followed a two-step process. First, 18 pharmacists were asked to read a situation and report whether or not they believed the pharmacist should talk with the patient for normative expectation situations and whether or not they believed that a pharmacist would talk with the patient for predictive expectation situations. Normative and predictive expectation situations were kept separate at this point. The results suggested that the manipulations were obtaining the desired effects. For the low normative expectation situations (see Appendix B), only three percent of the pharmacists reported that they believed the pharmacist should talk with the patient, while 100 percent reported the pharmacist should talk to the patient in the high normative expectation situation (see Appendix B). For low predictive expectation situations, only six percent of the pharmacists reported that they believed that the pharmacist would talk with the patient, while 100 percent reported that the pharmacist would talk with the patient in the high predictive expectation situation (see Appendix B).

To assure that the manipulations would not have an interactive effect when combined into one form, the manipulations were tested simultaneously using a random sample of 100 college students who were not enrolled in health care programs and also a random sample of 100 adults residing in Ohio. Situations were ordered randomly for each individual and

mailed. After reading each situation, respondents were asked to report "how necessary it is for a pharmacist to talk with you about how to use this prescription" using a scale from 1 = not at all necessary to 5 = extremely necessary" (to assess the manipulation for normative expectations). The word "necessary" was used to help reduce socially desirable responses that could have resulted by using the word "should." Also, they were asked "how likely it is that the pharmacist will talk with you about the prescription when you get it filled" using a scale from 1 = not at all likely to 5 = extremely likely" (to assess the manipulation for predictive expectations). To encourage response, the students were informed that two respondents would be selected randomly to receive \$100 gift certificates to the university bookstore and the adults residing in Ohio were informed that one respondent would be selected randomly to receive a \$100 gift certificate for the restaurant of his or her choice.

Of 93 deliverable college student surveys, 42 students (45.2 percent) responded. Of 94 deliverable Ohio resident surveys, 22 individuals (23.4 percent) responded. The results showed that the desired manipulations were obtained. All three manipulations were significant (p -values < 0.05). From the sample of college students, the means of the variables in the high and low conditions were: normative expectations (4.4, 2.8) and predictive expectations (4.4, 1.8). From the sample of adults residing in Ohio, the means of the variables in the high and low conditions were: normative expectations (4.4, 3.4) and predictive expectations (4.4, 1.7). Also, the results showed that the effects of the manipulations were independent of each other (interaction terms not significant).

Data Collection

In each of the two experiments, data were collected for the three outcome variables (satisfaction, perception of quality, and trust in the service provider). However, data were not collected from study subjects for manipulated variables (performance level, normative expectations, and predictive expectations). We used this approach so that the measurement of the outcome variables would not be biased by the explicit measurement of the

manipulated variables. An alternative approach, in which we could have measured the manipulated variables after measuring the outcomes, was not used because of bias that could have been introduced into their measurement. Although we did not measure manipulations for samples used in experiments 1 and 2, the manipulation checks that we conducted on separate samples selected from the same populations used for the experiment showed that the manipulations were effective.

A pretest for study procedures and the data collection form was conducted using one individual who was not trained or working in health care, but did have training in research methods. After making changes in the procedures based on her comments, experiment 1 was conducted. Her comments were related to wording of some items and the design of the data collection instrument. Also, she commented on the procedure that was used for showing the videotapes and suggested that at least one day spacing be used between the viewing of videotaped situations.

For experiment 1, 18 college students (not enrolled in health-related programs and who had never purchased prescriptions at a pharmacy) were recruited from The Ohio State University campus. According to Bratcher, Moran, and Zimmer [39], 18 subjects per group were required for $\alpha = 0.05$, power = 0.90, and $C = 1.5$. College students were selected because they were located close to the research laboratory and less likely than other adult groups to have had prior experience with pharmacist consultation services. No experience with consultation was desired for experiment 1 to help control for any bias that prior experience could have on responses.

Each of the individuals who volunteered for the study visited the research laboratory on eight separate days. At each visit, subjects received one of the eight study situations in random order and were asked to report their satisfaction, perception of quality, and trust in the service provider on a questionnaire. After the final visit, each volunteer received a \$100 gift certificate redeemable at the local university bookstore.

For experiment 2, a random sample of 960 adults residing in Ohio was selected. Each sample member was mailed a packet containing a cover letter, written scenario, survey form, videotape, postage paid return envelope, and postcard for entering a random drawing for a \$100 gift certificate to the restaurant of his or her choice. The data collection form was identical to the form used in experiment 1 except for three questions added for experiment 2. These questions asked about respondents' age, gender and number of prescription medications purchased for themselves and family members per month, and were used for ascertaining the similarity of study groups and for detecting any bias that prior experience could introduce into the results.

Data Analysis

Factor analysis was conducted for items used to measure satisfaction, perception of quality, and trust in the service provider to help support their discriminant validity. Varimax rotation was used to maintain orthogonality of factors. To support validity, items used to measure each variable should have relatively high factor loadings (≥ 0.50) for the variable they were designed to measure and relatively low factor loadings (< 0.50) for other variables. Since repeated measures were made on the same variable over different occasions with each subject in experiment 1, the P design factor analysis was utilized in which the long dimension was occasions and the short dimension was variables [40,41]. For experiment 2, the more common R design factor analysis was used in which the long dimension was subjects and the short dimension was variables (Nunnally and Bernstein 1994; Stewart 1981).

Reliability for the multi-item measures was assessed by Cronbach coefficient alpha. The reliability coefficient for experiment 1 was computed as $(MS_{\text{individuals}} - MS_{\text{residual}}) / MS_{\text{individuals}}$ to take into account the repeated measures design of the study [40].

For hypothesis testing, repeated measures Analysis of Variance was used for experiment 1 and Analysis of Variance was used for experiment 2, with a significance level of 0.05, for hypothesis testing. Interactive effects among the study variables were

evaluated in concert with main effects by viewing graphed means of the combined main and interactive effects for interpretation [42-44]. Selected post hoc comparisons were made based on these results. Statistical adjustments reflective of the repeated measures design were used for experiment 1 [42,43].

RESULTS

Description of Respondents

For experiment 1, each of the 18 college students completed eight visits to the research laboratory on separate days. Thus, a total of 144 responses for each item was collected. For experiment 2, 60 study packets were returned as undeliverable. Of the 900 packets presumed to be delivered, 258 forms were returned for a response rate of 28.7 percent. The eight treatment groups in experiment 2 did not differ significantly with respect to age ($F = 1.1$, $p = 0.38$), gender (chi-square = 3.5, $df = 7$, $p = 0.84$), or number of prescription medications purchased for themselves and family members per month ($F = 0.6$, $p = 0.79$).

One reason for measuring the number of prescription medications purchased per month in experiment 2 was to detect any bias that prior experience could introduce into study results. There was no evidence for such bias. Pearson correlations between number of medications purchased per month and the dependent variables were 0.01 ($p = 0.94$, satisfaction), 0.02 ($p = 0.74$, perception of quality), and 0.02 ($p = 0.77$, trust in the service provider).

Measurement Properties

Table I contains factor loadings for items used to measure satisfaction, perception of quality, and trust in the service provider. For experiment 1, all of the factor loadings were greater than 0.50 for items that were designed to measure their respective variables. However, three items designed to measure trust in the service provider also had factor loadings greater than 0.50 for other measures. For each of these three items, the word "provide" was included in it (see Appendix A). Thus, these items may have led the respondent to consider aspects of service provision as well as trust in the service provider. Because of this problem, they were omitted from analysis and a

three-item measure of trust in the service provider was used for data analysis (see Table I).

For consistency in data collection, experiment 2 consisted of the same 6-item measures from experiment 1 for satisfaction, perception of quality, and trust in the service provider. However, for consistency in analysis, the three-item measure for trust in the service provider was used for analysis. Factor analysis results for experiment 2 are presented in Table I. One item for trust in the service provider exhibited a factor loading >0.50 on a factor it was not designed to measure. For consistency between experiments, however, it was retained for analysis.

For experiment 1, Cronbach coefficient alpha (adjusted for the repeated measures design) for the six-item measure of satisfaction was 0.98, the six-item measure of perception of quality was 0.98, and the three-item measure of trust in the service provider was 0.90. Item-to-total correlations for the items used to measure satisfaction, perception of quality, and trust in the service provider ranged from 0.93 to 0.96, 0.88 to 0.99, and 0.81 to 0.82, respectively. For experiment 2, Cronbach coefficient alpha was 0.99 for satisfaction, 0.98 for perception of quality, and 0.91 for the three-item measure of trust in the service provider. Item-to-total correlations for the items used to measure satisfaction, perception of quality, and trust in the service provider ranged from 0.97 to 0.98, 0.89 to 0.97, and 0.80 to 0.84, respectively.

Hypothesis Testing

Table II contains results from repeated measures ANOVA from Experiment 1. For satisfaction, the results show that the three way interaction among normative expectations, predictive expectations, and performance level was significant ($p = 0.01$). To help interpret the combined effects of these three variables, graphed means for their combined main and interactive effects are presented in Figure II. The least significant difference post hoc test, adjusted for repeated measures design, revealed that each of the means under high performance conditions was significantly greater than means under low performance conditions (p -values < 0.05).

Table I: Factor Loadings For Items Of Multi-Item Dependent Variables.
Experiment 1: First Factor Analysis (n = 144 responses for each item)

Item ^a	Factor 1	Factor 2	Factor 3
Satisfaction			
SAT1	0.84	0.35	0.34
SAT2	0.84	0.37	0.30
SAT3	0.80	0.41	0.36
SAT4	0.80	0.41	0.37
SAT5	0.79	0.40	0.39
SAT6	0.78	0.37	0.40
Perception of quality			
QUAL1	0.39	0.83	0.29
QUAL2	0.40	0.83	0.28
QUAL3	0.32	0.85	0.26
QUAL4	0.42	0.83	0.26
QUAL5	0.24	0.86	0.25
QUAL6	0.33	0.89	0.20
Trust In The Service Provider			
TRUST1	0.47	0.33	0.70
TRUST2	0.50	0.48	0.62
TRUST3	0.37	0.24	0.79
TRUST4	0.27	0.21	0.87
TRUST5	0.60	0.50	0.54
TRUST6	0.56	0.52	0.55

Experiment 1: Second Factor Analysis (n = 144 responses for each item)

Item ^a	Factor 1	Factor 2	Factor 3
Satisfaction			
SAT1	0.85	0.35	0.31
SAT2	0.84	0.38	0.30
SAT3	0.81	0.42	0.34
SAT4	0.81	0.42	0.35
SAT5	0.79	0.41	0.37
SAT6	0.79	0.37	0.39
Perception of quality			
QUAL1	0.40	0.83	0.27
QUAL2	0.40	0.83	0.26
QUAL3	0.33	0.85	0.23
QUAL4	0.42	0.83	0.24
QUAL5	0.24	0.86	0.23
QUAL6	0.33	0.89	0.17
Trust In The Service Provider			
TRUST1	0.48	0.35	0.70
TRUST3	0.39	0.26	0.79
TRUST4	0.29	0.22	0.87

Experiment 2: Factor Analysis (n = 252b responses for each item)

Item ^a	Factor 1	Factor 2	Factor 3
Satisfaction			
SAT1	0.79	0.45	0.37
SAT2	0.78	0.47	0.37
SAT3	0.79	0.47	0.35
SAT4	0.79	0.46	0.36
SAT5	0.78	0.48	0.36
SAT6	0.79	0.46	0.36
Perception of quality			
QUAL1	0.46	0.80	0.31
QUAL2	0.46	0.80	0.32
QUAL3	0.34	0.77	0.41
QUAL4	0.49	0.76	0.35
QUAL5	0.42	0.79	0.33
QUAL6	0.45	0.81	0.31
Trust In The Service Provider			
TRUST1	0.58	0.37	0.63
TRUST3	0.45	0.35	0.74
TRUST4	0.31	0.39	0.80

^a See Appendix A for wording of items

^b n = 252 due to five cases with missing data

Table II: Repeated Measures Analysis Of Variance Results For Experiment 1 (N = 18)^A

Variable	<u>Satisfaction^b</u> t, significance	<u>Perception of Quality^b</u> t, significance	<u>Trust in the Service Provider^b</u> t, significance
Normative ^c	n/a, n/a	n/a, n/a	-2.6, 0.02
Predictive ^d	n/a, n/a	n/a, n/a	-1.3, 0.21
Performance ^e	n/a, n/a	8.7, <0.001	7.8, <0.001
Normative x Predictive	n/a, n/a	2.8, 0.01	0.2, 0.88
Normative x Performance	n/a, n/a	0.5, 0.61	1.5, 0.15
Predictive x Performance	n/a, n/a	0.9, 0.38	1.9, 0.07
Normative x Predictive x Performance	-3.09, 0.01	-1.5, 0.16	-0.9, 0.39

^a Study variables were measured eight times for each of the 18 study subjects yielding a total of 144 observations.

^b Refer to Appendix A for measurement of study variables.

^c Normative = Manipulated as high or low normative expectations (pretrial belief about what should occur).

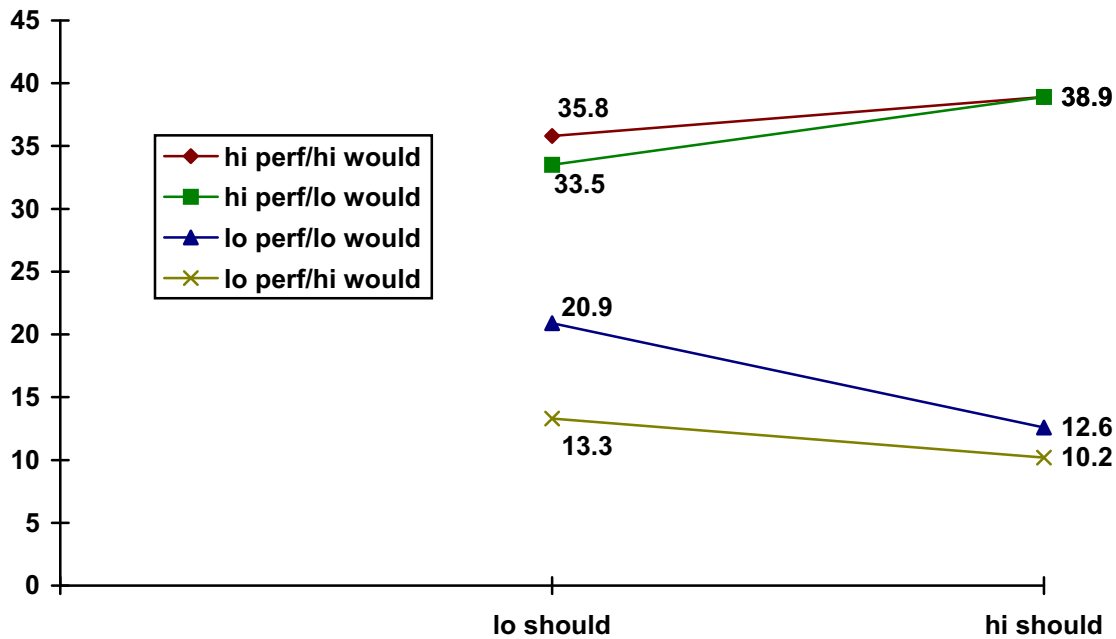
^d Predictive = Manipulated as high or low predictive expectations (pretrial belief about what will occur).

^e Performance = Manipulated as high or low level of pharmacist consultation provided.

Under high performance/high normative expectation conditions, the mean scores were significantly greater than means under high performance/low normative expectation conditions (p-values < 0.05), regardless of predictive expectation level (38.9>35.8;

38.9>33.5). The opposite result was found under low performance/high normative versus low performance/low normative conditions (p-values < 0.05), regardless of predictive expectation level (12.6<20.9; 10.2<13.3).

Figure II: Graphed Means For Combined Main And Interactive Effects Of Normative Expectations^a, Predictive Expectations^b, And Performance^c On Satisfaction^d In Experiment 1



^a Normative Expectations = Manipulated as "hi should" or "lo should" (pretrial belief about what should occur).

^b Predictive Expectations = Manipulated as "hi would" or "lo would" (pretrial belief about what will occur).

^c Performance = Manipulated as "hi perf" or "lo perf" (level of pharmacist consultation provided).

^d Satisfaction was measured using six items. Means are presented for each of the eight experimental treatment combinations.

Note: The three way interaction (normative x predictive x performance) was significant ($p = 0.01$). A presentation of significant effects that are useful for interpretation are presented in the text of this article.

Also, a general linear model approach was used to test differences in selected paired means. The mean score for satisfaction under the *low normative/low predictive/high performance* condition was 33.5 compared to a score of 20.9 for the *low normative/low predictive/low performance* condition, a difference of 12.6. Under conditions of high normative expectations, the difference (26.3) was significantly greater ($F = 39.7$, $p < 0.001$); [*high normative/low predictive/high performance* (mean = 38.9) - *high normative/low predictive/low performance* (mean = 12.6)].

In Figure II, a similar pattern is shown for high predictive expectation conditions. That is, the

difference between low normative/high predictive/high performance and low normative/high predictive/low performance conditions (22.5) was significantly less than the difference between high normative/high predictive/high performance and high normative/high predictive/low performance conditions (28.7); ($p = 0.01$).

Finally, one other difference in means should be noted. Utilizing the least significant difference post hoc test, adjusted for repeated measures design, the mean score for the low normative/low predictive/low performance condition (mean = 20.9) was significantly greater ($p < 0.05$) than the mean score for the low normative/high predictive/low

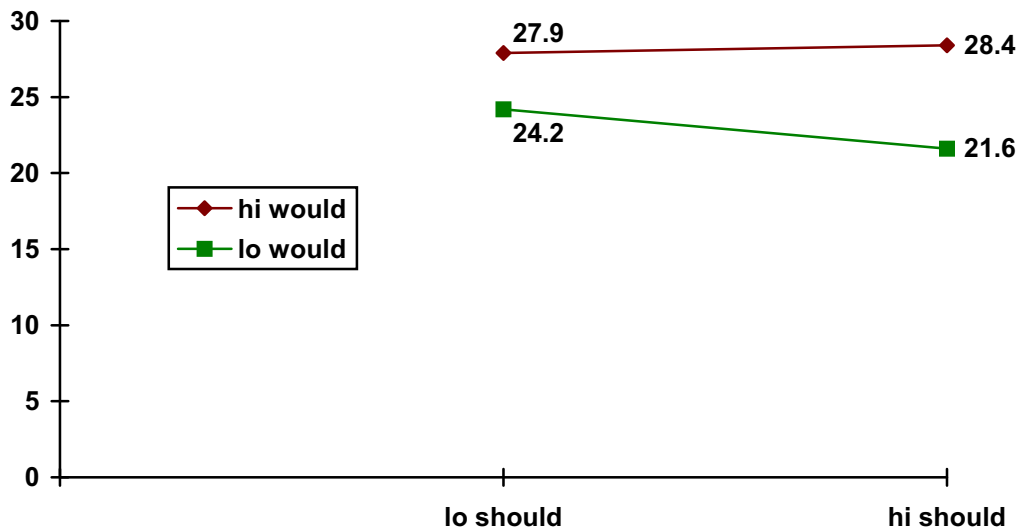
performance condition (mean = 13.3). None of the other similarly paired means were significantly different at the 0.05 level [low/low/high (35.8) vs. low/high/high (33.5); high/low/high (38.9) vs. high/high/high (38.9); high/low/low (12.6) vs. high/high/low (10.2)].

For perception of quality, the results in Table II show that the main effect of performance was statistically

significant ($p < 0.001$). Overall, high performance situations had an average perception of quality score equal to 33.3 compared to the low performance situations that had an average score equal to 17.8.

Also, the two-way interaction between normative and predictive expectations was statistically significant ($p = 0.01$). Graphed means for their combined main and interactive effects are presented in Figure III.

Figure III: Graphed Means For Combined Main And Interactive Effects Of Normative Expectations^a And Predictive Expectations^b On Perception Of Quality^c In Experiment 1



^a Normative Expectations = Manipulated as "hi should" or "lo should" (pretrial belief about what should occur).

^b Predictive Expectations = Manipulated as "hi would" or "lo would" (pretrial belief about what will occur).

^c Perception of quality was measured using six items. Means are presented for each of the four relevant experimental treatment combinations.

Note: The two-way interaction (normative \times predictive) was significant ($p = 0.01$). A presentation of significant effects that are useful for interpretation are presented in the text of this article.

The least significant difference post hoc test, adjusted for repeated measures design, revealed that each of the means under high would expectation conditions was significantly greater than means under low would expectation conditions (p -values < 0.05). For high predictive expectation conditions, there was not a significant difference in mean scores for high and low normative expectation conditions (means = 28.4 and 27.9, respectively, $p > 0.05$). However, the low predictive expectation conditions did reveal a

significant difference in means for high and low normative expectation conditions (means = 21.6 and 24.2, respectively, $p < 0.05$). Further analysis showed that the difference between low normative/high predictive and low normative/low predictive conditions (3.7) was significantly less than the difference between high normative/high predictive and high normative/low predictive conditions (6.8) ($p = 0.01$).

For trust in the service provider, the results in Table II show that the main effect of performance was significant ($p < 0.001$). Overall, high performance situations had an average trust in the service provider score equal to 16.8 compared to the low performance situations that had an average score equal to 10.8. Also, the main effect of normative expectations was statistically significant ($p = 0.02$). High normative expectation conditions had a mean score equal to

13.4 compared to low normative expectation conditions that had a mean score equal to 14.2.

Table III contains results from Analysis of Variance for Experiment 2. For satisfaction, the two-way interaction between normative expectations and performance level was statistically significant ($p = 0.02$). Graphed means for their combined main and interactive effects are presented in Figure IV.

Table III: Analysis Of Variance Results For Experiment 2 (N = 250)^A

Variable	<u>Satisfaction^b</u> F, significance	<u>Perception of Quality^b</u> F, significance	<u>Trust in the Service Provider^b</u> F, significance
Normative ^c	n/a, n/a	n/a, n/a	n/a, n/a
Predictive ^d	0.5, 0.49	7.7, 0.01	0.1, 0.82
Performance ^e	n/a, n/a	n/a, n/a	n/a, n/a
Normative x Predictive	0.2, 0.70	1.4, 0.23	0.1, 0.78
Normative x Performance	5.4, 0.02	7.5, 0.01	4.9, 0.03
Predictive x Performance	<0.01, 0.99	1.7, 0.20	0.1, 0.71
Normative x Predictive x Performance	2.3, 0.13	0.1, 0.74	2.7, 0.10

^a $n = 250$ due to seven cases with missing data.

^b Refer to Appendix A for measurement of study variables.

^c Normative = Manipulated as high or low normative expectations (pretrial belief about what should occur).

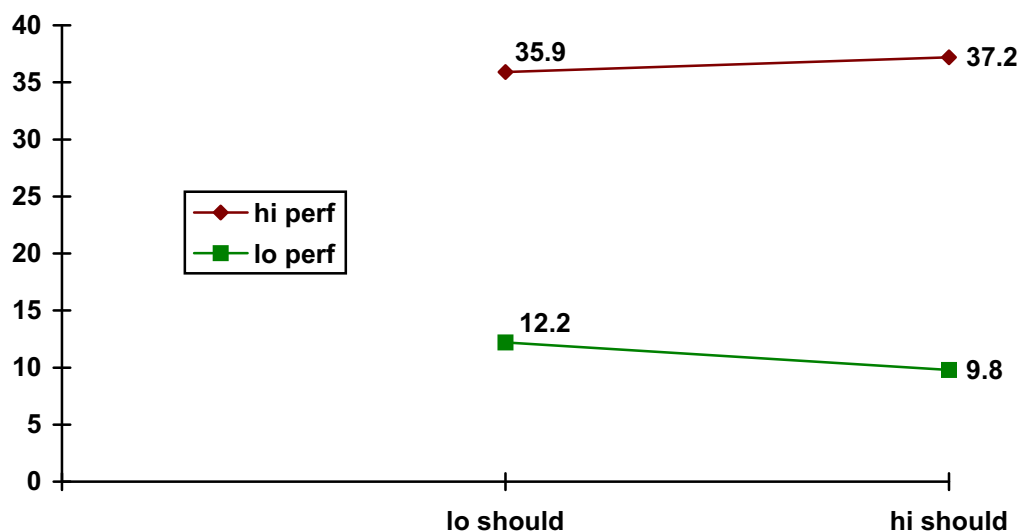
^d Predictive = Manipulated as high or low predictive expectations (pretrial belief about what will occur).

^e Performance = Manipulated as high or low level of pharmacist consultation provided.

The least significant difference post hoc test, revealed that each of the means under high performance conditions was significantly greater than means under low performance conditions (p -values < 0.05). For high performance conditions, there was not a significant difference in mean scores for high and low normative expectation conditions (means = 37.2 and 35.9, respectively, $p = 0.25$). However, the low performance conditions did reveal a significant difference in means for high and low normative expectation conditions (means = 9.8 and 12.2, respectively, $p = 0.04$). For perception of quality, the results show in Table III that the main effect of predictive expectation was statistically significant ($p = 0.01$). Overall, high predictive expectation situations had an average perception of quality score equal to 26.0 compared to the low predictive expectation situations that had an average score equal to 23.9. Also, the two-way interaction between

normative expectations and performance was statistically significant ($p = 0.01$). Graphed means for their combined main and interactive effects are presented in Figure V. The least significant difference post hoc test revealed that each of the means under high performance conditions was significantly greater than means under low performance conditions (p -values < 0.05). For high performance conditions, there was not a significant difference in mean scores for high and low normative expectation conditions (means = 35.7 and 34.3, respectively, $p = 0.25$). However, the low predictive expectation conditions did reveal a significant difference in means for high and low normative expectation conditions (means = 12.7 and 17.1, respectively, $p = 0.001$). For trust in the service provider, the results in Table III show that the two-way interaction between normative expectations and performance was statistically significant ($p = 0.03$).

Figure IV: Graphed Means For Combined Main And Interactive Effects Of Normative Expectations^a And Performance Level^b On Satisfaction^c In Experiment 2



^a Normative Expectations = Manipulated as "hi should" or "lo should" (pretrial belief about what should occur).

^b Performance = Manipulated as "hi perf" or "lo perf" (level of pharmacist consultation provided).

^c Satisfaction was measured using six items. Means are presented for each of the four relevant experimental treatment combinations.

Note: The two-way interaction (normative x performance) was significant ($p = 0.02$). A presentation of significant effects that are useful for interpretation are presented in the text of this article.

Graphed means for their combined main and interactive effects are presented in Figure VI. The least significant difference post hoc test revealed that each of the means under high performance conditions was significantly greater than means under low performance conditions (p -values < 0.05). For high performance conditions, there was not a significant difference in mean scores for high and low normative expectation conditions (means = 16.7 and 16.4, respectively, $p = 0.56$). However, the low predictive expectation conditions did reveal a significant difference in means for high and low normative expectation conditions (means = 7.9 and 9.4, respectively, $p = 0.02$).

Limitations

Before the results are discussed, some limitations of this study should be mentioned. Different methodologies used for experiment 1 and experiment 2 yielded some inconsistent findings. While the repeated-measures factorial design for experiment 1 provided the advantage of controlling extraneous

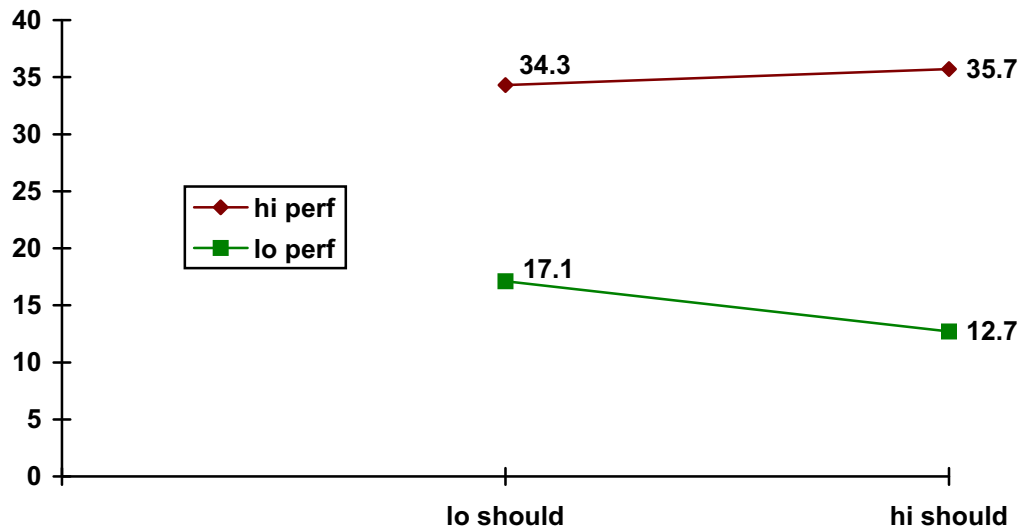
variables that could affect the internal validity of the study, external validity suffered. To help overcome this limitation, experiment 2 utilized a non-repeated measures design and selected study subjects with varying levels of medication purchasing experience. However, the mailed survey methodology in experiment 2 did not afford much control over the administration of the videotape and questionnaire. Study subjects might not have followed the relatively complicated instructions for completing the study. However, findings that were consistent between experiment 1 and experiment 2 will be useful for developing future studies.

Another limitation is that written scenarios and videotaped presentations were used to simulate prescription dispensing situations. Although researchers have reported that these are valid methods for simulating service experiences [12,36], relevance of the results to all prescription dispensing situations in general is questionable. Also, measurement error and covariance among the dependent variables are limitations of this study. A

different study design could be better suited to study the interrelationships among the dependent variables and control for measurement error and covariance. However, the study design we used was developed

for the primary purpose of investigating the different effects that normative and predictive expectations can have on satisfaction, perception of quality, and trust in the service provider.

Figure V: Graphed Means For Combined Main And Interactive Effects Of Normative Expectations^a And Performance Level^b On Perception Of Quality^c In Experiment 2



^a Normative Expectations = Manipulated as "hi should" or "lo should" (pretrial belief about what should occur).

^b Performance = Manipulated as "hi perf" or "lo perf" (level of pharmacist consultation provided).

^c Perception of quality was measured using six items. Means are presented for each of the four relevant experimental treatment combinations.

Note: The two-way interaction (normative x performance) was significant ($p = 0.01$). A presentation of significant effects that are useful for interpretation are presented in the text of this article.

DISCUSSION

First, the results will be discussed in relation to the study hypotheses. Then, a discussion of the results' implications to research and management will be presented in the following order: (1) differential roles of expectations in service evaluation, (2) implications for future research and theory development, and (3) considerations for service management.

Study Hypotheses

The hypothesized effect of performance on satisfaction (Hypothesis 1) was supported for all conditions in both experiment 1 and experiment 2.

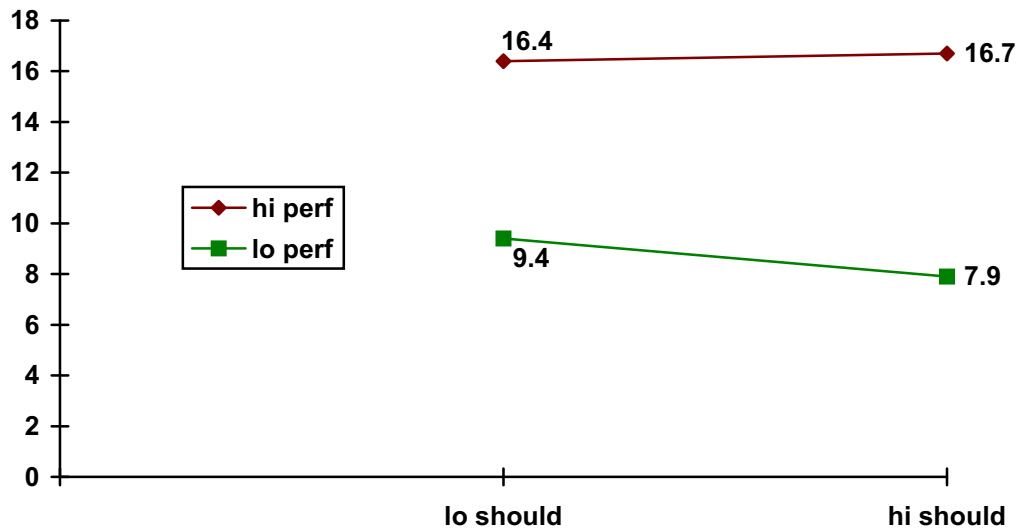
High performance resulted in higher satisfaction scores regardless of the level of normative or predictive expectation. This finding is consistent with previous research reported by Tse and Wilton [27].

The hypothesized negative relationship between normative expectations and satisfaction (Hypotheses 2) was supported only under conditions of low performance in both experiment 1 and experiment 2 (Figure II and Figure IV). Under high performance conditions, there was a significant positive relationship between normative expectations and satisfaction in experiment 1 only. These results suggest that individual's with high normative expectations can be viewed as more discriminating

evaluators of discrete service encounters. That is, those with high normative expectations might express appreciably more satisfaction with high service performance (experiment 1) and appreciably less

satisfaction with low service performance (experiment 1 and experiment 2) than those with low normative expectations.

Figure VI: Graphed Means For Combined Main And Interactive Effects Of Normative Expectations^a And Performance Level^b On Trust In The Service Provider^c In Experiment 2



^a Normative Expectations = Manipulated as "hi should" or "lo should" (pretrial belief about what should occur).

^b Performance = Manipulated as "hi perf" or "lo perf" (level of pharmacist consultation provided).

^c Trust in the Service Provider was measured using three items. Means are presented for each of the four relevant experimental treatment combinations.

Note: The two-way interaction (normative \times performance) was significant ($p = 0.03$). A presentation of significant effects that are useful for interpretation are presented in the text of this article

The findings that there is a positive relationship (experiment 1) or no relationship (experiment 2) between normative expectations and satisfaction in high performance conditions do not support hypothesis 2 which was based upon the disconfirmation of expectations paradigm. It appears that the disconfirmation of expectations paradigm does not apply to high performance conditions for the service studied.

Finally, the effect of predictive expectations on satisfaction (Hypothesis 3) was detected only under the low performance/low normative expectation condition in experiment 1. Under this unique condition, there was a negative relationship between predictive expectations and satisfaction, as

hypothesized. There was no significant effect for the other conditions of the experiment. Predictive expectations might be utilized for forming evaluations of satisfaction only in the absence of high performance and high normative expectations. However, this finding was not supported in experiment 2.

In summary, consistent findings from experiment 1 and experiment 2 suggest the following about satisfaction with discrete service episodes: (1) performance level is used universally for evaluative purposes, (2) individuals with high normative expectations are more discriminating evaluators than those with low normative expectations, particularly under low performance conditions, and (3) the

disconfirmation of expectations paradigm does not apply to high performance conditions as hypothesized.

The hypothesized effect of performance on perception of quality (Hypothesis 4) was supported for all conditions in both experiment 1 and experiment 2. High performance resulted in higher perception of quality scores regardless of the level of normative or predictive expectation.

The hypothesized negative relationship between normative expectations and perception of quality (Hypotheses 5) was supported only under conditions of low predictive expectations in experiment 1 and under conditions of low performance in experiment 2 (Figure III and Figure V). These results provide some support for hypothesis five under limited conditions. However, more investigation is necessary before firm conclusions can be made.

As predicted by previous research [12], there was a positive relationship between consumers' predictive expectations and perception of quality (Hypothesis 6). High predictive expectations resulted in relatively higher evaluations under all experimental conditions in both experiment 1 and experiment 2.

In summary, consumers might utilize expectations differently when evaluating a service over the course of all encounters compared to a single encounter. Namely, individuals appear to give weight to the performance level of their last service episode in their evaluation of cumulative encounters, but modify their last experience with predictive expectations (presumably formed from previous service episodes or other sources of information about the service). In addition, consumers might rely on normative expectations as a comparison standard when predictive expectations are low or performance level is low.

The hypothesized effect of performance on trust in the service provider (Hypothesis 7) was supported for all conditions in both experiment 1 and experiment 2. High performance resulted in higher trust scores regardless of the level of normative or predictive expectation. Similar to the process for perception of

quality, performance level of the most recent service episode experience is incorporated into an individual's trust in the service provider independent of normative or predictive expectations.

The hypothesized negative relationship between normative expectations and trust in the service provider (Hypotheses 8) was supported under all conditions in experiment 1 but only under conditions of low performance in experiment 2 (Figure VI). These results are consistent with the disconfirmation of expectations view that has been applied to other components of service evaluation [45]. More research is needed, however, before making conclusions about the conditions under which this relationship will occur.

The positive relationship hypothesized between consumers' predictive expectations and trust (Hypothesis 9) was not supported under any conditions in either experiment. It appears that predictive expectations play no role in evaluation of trust in the service provider.

In summary, the evaluative process consumers use for assessing trust in the service provider appears unique from those used for satisfaction and perceptions of quality. Individuals apparently update their level of trust in the service provider based on the performance level of their last service experience and also rely on normative expectations as a comparison standard in a disconfirmation of expectations process. Predictive expectations did not exert a significant effect on trust. Thus, trust might need time to be built between a service provider and consumer [34], but can be diminished after a single low performance service encounter and is more difficult to maintain when consumers expect that they should receive a high level of service from the provider. It appears that a "carry over" effect from building high predictive expectations is not present for trust in the service provider.

Differential Roles of Expectations in Service Evaluation

Based on the preceding discussion, a summary of the relationships between expectations and evaluative

outcomes for services is presented in Table IV. For pharmacist consultation services, normative and predictive expectations served differential roles for the various components of patients' evaluation of the service. For example, normative expectations (what should occur) have a "threshold" or "sensitizing" effect on satisfaction in that individuals who possess

high normative expectations might pay more attention to service performance as they evaluate a service encounter. High performance level might be viewed more favorably and low performance viewed more unfavorably by those individuals with high normative expectations.

Table IV: A Summary Of The Relationships Between Expectations And Evaluative Outcomes For Pharmacist Consultation Services

Evaluative Outcome	Expectation Type	Relationship Between Expectation and Outcome	Conditions Under Which Relationship Was Detected
Satisfaction	Normative	Negative	Low Performance (Experiment 1 and Experiment 2)
	Normative	Positive	High Performance (Experiment 1 only) Low Performance/Low
Perception of quality	Predictive	Negative	Normative Expectation (Experiment 1 only)
	Normative	Negative	Low Predictive Expectation (Experiment 1 only)
	Normative	Negative	Low Performance (Experiment 2 only)
	<i>Predictive</i>	<i>Positive</i>	All (Experiment 1 and Experiment 2)
Trust In The Service Provider	Normative	Negative	All (Experiment 1 only)
	Normative	Negative	Low Performance (Experiment 2 only)
	<i>Predictive</i>	<i>None</i>	n/a (Experiment 1 and Experiment 2)

In comparison, normative expectations serve a more limited role in perceptions of quality for cumulative encounters. Here, consumers rely on normative expectations as a comparison standard when predictive expectations are low or when performance level is low. Normative expectations serve yet another role in consideration of trust; individuals with high normative expectations are less likely to be positively disconfirmed by the level of service, resulting in lower trust in the service provider scores, on average, for high levels of normative expectations.

Predictive expectations also served different roles in evaluation processes, depending upon the outcome of interest. For satisfaction, predictive expectations were utilized as a comparison standard, only under low performance/low normative expectation conditions in experiment 1. However, for perception of quality, predictive expectations emerged as having a dominant effect. The positive relation between

predictive expectations and perception of quality suggests that this expectation might serve more as a reference point used in determining the cause of unanticipated service performance than it does as a comparison standard to be confirmed or disconfirmed. Finally, the role of predictive expectations in evaluation of trust in the service provider was not significant at all revealing an irrelevant role in this particular evaluation. Thus, trust in the service provider is evaluated based more on what the provider *should* do than what the provider *will* do. For many health care services, such as the one investigated in this study, trust between the consumer and provider is important for achieving positive health outcomes from the service. Our findings suggest that a focus on raising consumers' predictive expectations would have no effect on building a relationship of trust between the consumer and provider.

The complex roles that expectations play in service evaluation highlight the need for their careful definition and measurement. Teas and Palan [46] outlined a formal framework for improvement of conceptual definitions of expectations. However, as expectations become more formalized, researchers should strive to develop accurate representations of the expectations/comparison standards consumers use in real settings under unique naturalistic conditions.

Implications for Future Research and Theory Development

The results suggest that expectations will be used differently depending upon the consumer's decision task or how the consumer frames the decision. Thus, the same expectation could affect an outcome measure favorably or unfavorably depending on the aspect of service being evaluated and the context in which it is evaluated. Consistent with findings reported by Kucukarslan, et al. [47], normative expectations tend to be the comparison standard of choice when satisfaction with a discrete service encounter is the focus and predictive expectations tend to be utilized by consumers when evaluating overall quality of cumulative experiences.

These findings suggest that a functional approach for research and theory development about service evaluation might be useful. That is, some research problems will tend to focus on an individual service encounter, while others will focus on cumulative service encounters or the service provider. Defining research problems in this functional way might be more useful than defining them according to a construct of interest, such as satisfaction or quality. The focus chosen for study could reflect relevant decision tasks that consumers are facing within the domain of the research.

Theory development also could follow such a functional approach. Evidence shows that consumers are adaptive decision makers [48] who use a functional perspective for evaluating services. Thus, a focus on subsets of situations or conditions might be necessary for some research problems. If it is known that the target consumer population predominantly exhibits high or low expectations or

that the service is provided at a consistently high or low performance level, a particular model of consumer evaluation might be developed for that research problem. New service offerings or recently promoted service offerings might present such situations.

Considerations for Service Management

The results of this study reveal the complex nature of managing pharmacist consultation services. Consumers' perceptions of service performance and the decisions consumers make about the service will determine which areas service providers should focus upon for managing pharmacist consultation services. For example, pharmacists are developing mechanisms by which consultation services are provided to groups of clients through insurance company contracts. Suppose, for argument's sake, that an insurance company utilizes pharmacists as the sole provider of information about the appropriate use of prescription medications. After a physician prescribes a medication, the client is sent to a pharmacist located in the same clinic for distribution of the appropriate prescription and consultation about its use. Such a system was developed so that physicians could schedule more patient appointments per day and leave patient education about medications to a lower wage, qualified employee of the clinic (pharmacist).

Such a scenario could elicit high normative expectations on the part of the client. That is, clients would come to expect that the pharmacist has a duty to provide consultation services under the new service delivery scenario. However, since the client has never received such consultation in the past, views the pharmacist as too busy to talk, and might not know the level of expertise a pharmacist possesses in the area of prescription drug use, predictive expectations could be low. Based on the results of this study, low service performance would result in unfavorable levels of satisfaction, perceptions of quality, and trust in the pharmacist provider. Thus, such a combination of expectations could be costly to a service provider who does not deliver the service at a high performance level. Such a scenario is plausible for any newly developed

service that is over-promoted or ambiguous to consumers [49].

When managing pharmacist consultation services, it would seem prudent to assess and monitor consumers' expectations, perceptions of performance, satisfaction, perceptions of quality, and level of trust in the service provider. Also, an understanding of factors that affect expectation formation (norms, psychographics, externalities such as policy or regulations, promotional information, experience, etc.) would be valuable for planning and monitoring the success of new services. It is argued here that the variables most appropriate for study relate back to the decision task(s) facing consumers of the service in question. This could serve as a guide for identifying the most appropriate research problems or management information needs for the service provider.

CONCLUSIONS

In conclusion, the results showed that normative and predictive expectations play differential roles in consumers' evaluation of satisfaction, perception of quality, and trust in the service provider if consumers use these expectations as comparison standards. Also, there appears to be differential roles that a particular type of expectation will serve depending upon the level of service performance.

ACKNOWLEDGEMENTS

The author thanks Steve Huelsnitz and the staff of Able Video Productions for their preparation of videotapes used in this study. Useful suggestions from William Doucette, Suzan Kucukarslan, David Mott, Dev Pathak, Fred Rulind, and Joseph Wiederholt are greatly appreciated. Funding was provided by The Ohio State University Seed Grant Program. An earlier version of this manuscript was presented at the Frontiers in Services Conference, Nashville, TN, October 22, 1999.

APPENDICES

Appendix A Items Used For Measuring Satisfaction, Perception Of Quality, And Trust In The Service Provider

Unless otherwise noted, responses were made on the rating scale 1 = very strongly disagree to 7 = very strongly agree.

Satisfaction

SAT1 I was satisfied with the consultation provided by the pharmacist.

SAT2 I was pleased with the pharmacist's consultation.

SAT3 The consultation provided by the pharmacist was useful.

SAT4 The pharmacist's consultation was helpful.

SAT5 The consultation provided by the pharmacist was valuable.

SAT6 I was thankful for the consultation by the pharmacist.

Perception of quality

QUAL1 The quality of consultation provided at this pharmacy is outstanding.

QUAL2 The consultation provided at this pharmacy is superb.

QUAL3 This pharmacy is a reliable source of prescription drug information

QUAL4 The overall quality of pharmacist consultation provided at this pharmacy is: (1 = terrible to 7 = excellent).

QUAL5 When compared to an average pharmacy, consultation provided at this pharmacy is: (1 = extremely inferior to 7 = extremely superior).

QUAL6 The overall quality of consultation services at this pharmacy is: (1 = extremely low to 7 = extremely high).

Trust In The Service Provider

TRUST1 This pharmacist puts the customer's interests before her own.

TRUST2 This pharmacist can be relied upon to provide accurate information.

TRUST3 This pharmacist is sincere with her customers.

TRUST4 This pharmacist is more trustworthy than other pharmacists.

TRUST5 This pharmacist provides all the information that her customers need.

TRUST6 This pharmacist can be depended upon by her customers to provide necessary information about their medications.

Note: Items TRUST2, TRUST5, and TRUST6 were omitted from data analysis due to validity issues.

Appendix B. Hypothetical Situations Presented In Written Format For The Manipulation Of Normative And Predictive Expectations

High Normative Expectations

About a week ago you experienced a sore throat and a bad taste in your mouth. Your symptoms kept getting more bothersome so you decided to see the doctor to find out what the problem was. Your doctor diagnosed that you had an infection in your mouth and prescribed a medication to take care of the problem. You mentioned to the doctor that you've never had this infection before. The doctor said that you shouldn't worry because the medication will clear it up in no time. You leave the doctor's office without receiving any information about the medication that was prescribed for you and aren't sure how you're supposed to use it. After leaving the doctor's office,

you believe it is necessary to receive more information about the prescription from another source.

Low Normative Expectations

About a week ago you experienced a sore throat and a bad taste in your mouth. Your symptoms kept getting more bothersome so you decided to see the doctor to find out what the problem was. Your doctor diagnosed that you had an infection in your mouth and prescribed a medication called Nystatin to take care of the problem. The doctor explained that Nystatin is an antibiotic used to treat infections of the mouth and throat. You should take one teaspoonful four times a day. When you take it, shake the bottle, measure out one teaspoonful, and swish the medicine around in both sides of your mouth just like mouthwash. Then go ahead and swallow the medicine. The doctor said to keep taking it for about 48 hours after the symptoms go away to make sure that the infection doesn't come back. Side effects are rare with the medication, but some stomach upset or diarrhea are possible. They should go away, but if not, give the doctor a call. You can store the bottle at room temperature. Then, the doctor asked if you had any questions and gave you some written information to remind you how to use the drug when you get home. You left the doctor's office completely confident in how to use the medication, with no need to get more information elsewhere.

High Predictive Expectations

You decide to purchase the prescription at a pharmacy that sells prescriptions at higher prices than other pharmacies, but provides personal counseling services on all prescriptions. Your friends have recommended this pharmacy to you because the pharmacists give useful information about how to use the prescriptions, what they are for, and what types of things to look out for while taking them. The pharmacists always ask how much you already know about the prescriptions and then reinforce or build on what you tell them. In your experience with this pharmacy, you've talked with the pharmacist every time you've gone there and received valuable

information. You also appreciate the pharmacist's willingness to answer your questions.

Low Predictive Expectations

You decide to purchase the prescription at a pharmacy that sells prescriptions at deeply discounted prices. You have heard from your friends that, while the prices are low, the pharmacists never give out any information about prescriptions and are too busy to answer questions. You've purchased prescriptions at this pharmacy before and have never talked with the pharmacist even once.

REFERENCES

- 1 The Task Force for Compliance (1993), *Noncompliance with Medications: An Economic Tragedy with Important Implications for Health Care Reform*, John Hawks, Task Force Director, Baltimore, MD.
- 2 Kohn, Linda, Janet Corrigan, and Molla Donaldson (1999), *To Err is Human: Building a Safer Health System*, Institute of Medicine, National Academy Press, Washington, D.C.
- 3 Davis, Neil M. and Michael R. Cohen (1992), "Counseling Reduces Dispensing Accidents," *American Pharmacy*, Vol. NS32, No. 10, 22.
- 4 Thompson, Teresa L. (2000), "The Nature and Language of Illness Explanations," in *Explaining Illness: Research, Theory and Strategies*, Bryan B. Whaley, Editor. Lawrence Erlbaum Associates, Publishers, Mahwah, NJ, 3-39.
- 5 Schommer, Jon C. (2000), "Pharmacists' New Communicative Role: Explaining Illness and Medicine to Patients," in *Explaining Illness: Research, Theory and Strategies*, Bryan B. Whaley, Editor. Lawrence Erlbaum Associates, Publishers, Mahwah, NJ, 209-233.
- 6 Svarstad, Bonnie L. (1986), "Patient - Practitioner Relationships and Compliance with Prescribed Medical Regimens," in *Applications of Social Science to Clinical Medicine and Health Policy*, Aiken and Mechanic, eds., Rutgers University Press, New Brunswick, NJ, 438-459.
- 7 Kusserow, Richard P. (1990), "The Clinical Role of the Community Pharmacist," Draft Report of the Office of the Inspector General, Washington, D.C., January.
- 8 Omnibus Budget Reconciliation Act of 1990 (1990), U.S. Government Printing Office, Washington, DC, 152-171.
- 9 Normann, Richard (1983), *Service Management*. New York: John Wiley & Sons, Inc.
- 10 Bitner, Mary Jo (1991), "The Evolution of the Services Marketing Mix and Its Relationship to Service Quality," in *Service Quality: Multidisciplinary and Multinational Perspectives*, S.W. Brown, E. Gummesson, B. Edvardsson, and B. Gustavsson, eds. New York: Lexington Books, 23-37.
- 11 Berry, Leonard L. (1983), "Relationship Marketing," in *Emerging Perspectives on Services Marketing*, L.L. Berry, L. Shostack, and G.D. Upah, eds. Chicago: American Marketing Association, 25-28.
- 12 Boulding, William, Ajay Kalra, Richard Staelin, and Valarie A. Zeithaml. (1993), "A Dynamic Process Model of Service Quality: From Expectations to Behavioral Intentions," *Journal of Marketing Research*, Vol. 30, 7-27.
- 13 Crosby, Lawrence A., Kenneth R. Evans, and Deborah Cowles (1990), "Relationship Quality in Services Selling: An Interpersonal Influence Perspective," *Journal of Marketing*, Vol. 54, July, 68-81.
- 14 Crosby, Lawrence A. and Nancy Stephens (1987), "Effects of Relationship Marketing on Satisfaction, Retention, and Prices in the Life Insurance Industry," *Journal of Marketing Research*, 24 (November), 404-411.
- 15 Gummesson, Evert (1993), *Relationship Marketing: From 4Ps to 30Rs*. Stockholm: Stockholm University.
- 16 Parasuraman, A., Valerie A. Zeithaml, and Leonard L. Berry (1985), "A Conceptual Model of Service Quality and Its Implications for Further Research," *Journal of Marketing*, Vol. 49, Fall, 41-50.
- 17 Price, Linda L., Eric J. Arnould, and Patrick Tierney (1995), "Going to Extremes: Managing Service Encounters and Assessing Provider Performance," *Journal of Marketing*, Vol. 59 (April), 83-97.
- 18 Solomon, Michael R., Carol Surprenant, John A. Czepiel, et al. (1985), "A Role Theory Perspective on Dyadic Interactions: The Service Encounter," *Journal of Marketing*, Vol. 49 (Winter), 99-111.
- 19 Roloff, M.E. and G.R. Miller (1987), *Interpersonal Processes: New Directions in Communication Research*, Vol. 14. London: Sage Publications, Inc.
- 20 Harris, Eric G. and Tom J. Brown (1999), "Understanding the Confirmatory Bias of Expectation on Performance Perceptions: The Moderating Influence of Referral Source and Performance Ambiguity," Presented at Frontiers in Services Conference, Nashville, TN, October 22, 1999.
- 21 Oliver, Richard L. (1981), "Measurement and Evaluation of Satisfaction Processes in Retail Settings," *Journal of Retailing*, Vol. 57, Fall, 25-48.
- 22 Bitner, Mary Jo and Amy R. Hubbert (1994), "Encounter Satisfaction Versus Overall Satisfaction Versus Quality," in *Service Quality: New Directions in Theory and Practice*, R.T. Rust and R.L. Oliver, eds. Thousand Oaks, CA: Sage Publications, Inc., 72-94.
- 23 Swan, John E., Frederick I. Trawick, and D. W. Silva (1985), "How Industrial Salespeople Gain Customer Trust," *Industrial Marketing Management*, Vol. 14, No. 3, 203-211.
- 24 Berger, Bruce A. (1993), "Building an Effective Therapeutic Alliance: Competence, Trustworthiness, and Caring," *American Journal of Hospital Pharmacy*, Vol. 50, 2399-2403.
- 25 Lawrence, Lesa W., Harvey M. Rappaport, Joseph B. Feldhaus, Art L. Bethke, and Robert E. Stevens (1995), "A Study of the Pharmacist - Patient Relationship: Covenant or Contract?," *Journal of Pharmaceutical Marketing and Management*, Vol. 9, No. 3, 21-40.
- 26 Churchill, Gilbert A. and Carol Surprenant (1982), "An Investigation Into the Determinants of Customer Satisfaction," *Journal of Marketing Research*, 19 (November), 491-504.
- 27 Tse, David K. and Peter C. Wilton (1988), "Models of Consumer Satisfaction Formation: An Extension," *Journal of Marketing Research*, Vol. 25, No. 2, 204-212.

- 28 Olson, Jerry C. and Philip A. Dover (1979), "Disconfirmation of Consumer Expectations Through Product Trial," *Journal of Applied Psychology*, Vol. 64, 179-189.
- 29 Swan, John E. and Frederick I. Trawick (1980), "Satisfaction Related to Predictive vs. Desired Expectations: A Field Study," in *New Findings on Consumer Satisfaction and Complaining*, Ralph L. Day and H. Keith Hunt, eds. Bloomington, IN: School of Business, Indiana University, 15-21.
- 30 Oliver, Richard L. (1980), "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions," *Journal of Marketing Research*, Vol. 17, November, 460-469.
- 31 Woodruff, Robert B., Ernest R. Cadotte, and Roger L. Jenkins (1983), "Modeling Consumer Satisfaction Processes Using Experience-Based Norms," *Journal of Marketing Research*, Vol. 20, August, 296-304.
- 32 Berry, Leonard L. (1995), "Relationship Marketing of Services - Growing Interest, Emerging Perspectives," *Journal of the Academy of Marketing Science*, Vol. 23, No. 4, 236-245.
- 33 Bitner, Mary Jo (1995), "Building Service Relationships: It's All About Promises," *Journal of the Academy of Marketing Science*, Vol. 23, No. 4, 246-251.
- 34 Ganesan, Shankar (1994), "Determinants of Long-Term Orientation in Buyer-Seller Relationships," *Journal of Marketing*, Vol. 58, No.2, 1-19.
- 35 Walbridge, Stephanie W. and Linda M. Delene (1993), "Measuring Physician Attitudes of Service Quality," *Journal of Health Care Marketing*, Winter, 6-15.
- 36 Bateson, John E.G., and Michael K. Hui (1992), "The Ecological Validity of Photographic Slides and Videotapes in Simulating the Service Setting," *Journal of Consumer Research*, Vol. 19, September, 271-281.
- 37 American Society of Health-System Pharmacists (1999), "Nystatin 84:04.08," in *American Hospital Formulary Service Drug Information 1999*, Gerald K. McEvoy, editor, 3049-3051.
- 38 Perdue, Barbara C. and John O. Summers (1986), "Checking the Success of Manipulations in Marketing Experiments," *Journal of Marketing Research*, Vol. 23, 317-326.
- 39 Bratcher, T.L., M.A. Moran, and W.J. Zimmer (1970), "Tables of Sample Size in the Analysis of Variance," *Journal of Quality Technology*, Vol. 2, 156-164.
- 40 Nunnally, Jum C. and Ira H. Bernstein (1994), *Psychometric Theory*, Third Edition, McGraw-Hill, Inc., New York, NY, 274-278, 526-530.
- 41 Stewart, David W. (1981), "The Application and Misapplication of Factor Analysis in Marketing Research," *Journal of Marketing Research*, Vol. XVIII (February), 51-62.
- 42 Hays, William L. (1988), *Statistics*, Fourth Edition, Holt, Rinehart and Winston, Inc., Orlando, FL, 367-369, 516-533.
- 43 Howell, David C. (1987), *Statistical Methods for Psychology*, Second Edition, PWS-KENT Publishing Company, Boston, MA, 382-390.
- 44 Umesh, U.N., Robert A. Peterson, Michelle McCann-Nelson, and Rajiv Vaidyanathan (1996), "Type IV Error in Marketing Research: The Investigation of ANOVA Interactions," *Journal of the Academy of Marketing Science*, Vol. 24, No. 1, 17-26.
- 45 Oliver, Richard L. (1997), *Satisfaction, A Behavioral Perspective on the Consumer*, McGraw-Hill, Inc., New York, NY, 66-318.
- 46 Teas, R. Kenneth and Kay M. Palan (1997), "The Realms of Scientific Meaning Framework for Constructing Theoretically Meaningful Nominal Definitions of Marketing Concepts," *Journal of Marketing*, Vol. 61 (April), 52-67.
- 47 Kucukarslan, Suzan N., Jon C. Schommer, and Dev S. Pathak, "Examining Prior Experience, Normative Expectations, and Market-Based Expectations as Determinants of Satisfaction," Presented to the Economic, Social, and Administrative Sciences Section, Academy of Pharmaceutical Research and Science, 144th Annual Meeting of the American Pharmaceutical Association, Los Angeles, CA, March 8, 1997.
- 48 Payne, John W., James R. Bettman, and Eric J. Johnson, (1993), *The Adaptive Decision Maker*, Cambridge, England, Cambridge University Press, 1-69.
- 49 Yi, Youjae (1993), "The Determinants of Consumer Satisfaction: The Moderating Role of Ambiguity," *Advances in Consumer Research*, L. McAlister and M.L. Rothschild, eds. Vol. 20, 502-506.